

Graphing Planes in Three-Space

$$Ax + By + Cz = D$$

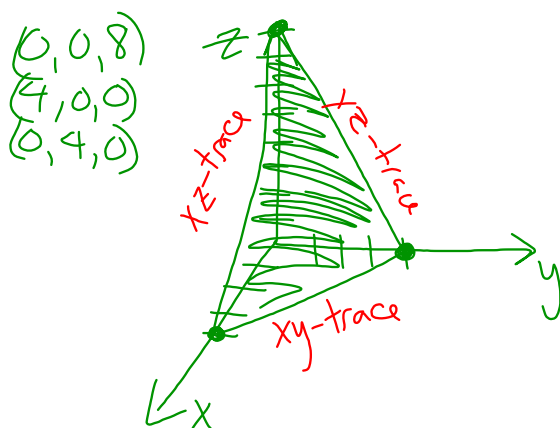
2 variables the graph is a line

3 variables the graph is a plane

Example

$$2x + 2y + z = 8$$

$(1, 1, 4)$   $(1, 2, 2)$   
 $(0, 0, 8)$   $(3, 0, 2)$   
 $(2, 2, 0)$   $(\frac{1}{2}, \frac{1}{2}, 6)$   
 $(4, 0, 0)$   
 $(0, 4, 0)$



Graph using intercepts.

ex:  $3x + 2y + 6z = 6$

$(0, 0, 1)$   
 $(0, 3, 0)$   
 $(2, 0, 0)$

